NATURAL THEOLOGY.

No. 5.

LECTURES

ON

NATURAL THEOLOGY

IN

CHICAGO THEOLOGICAL SEMINARY,

BY

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NATURAL THEOLOGY.

DEFINITION.—Natural Theology is the knowledge of God derived from nature and reason.

The aim of a treatise upon it is to show that God exists, that he is a person, that he is possessed of certain attributes.

It is opposed to atheism, which denies any knowledge of the being of God; and to pantheism, which denies the personality of God, denies his existence beyond and outside the world, and affirms that God is the universe itself.

MEMORANDUM.—Our belief in God does not rise from the evidence of his existence stated in logical forms. We are led by our feelings to look for God, "to feel after him, if haply we may find him." Our fears of evil and its consequences, our sense of dependence, our sense of responsibility, our longing for spiritual sympathy and help prompt us to seek for God; and the arguments for his existence meet us waiting to receive them, struggling for them as the eye struggles for the light. Hence the teachings of devout instructors, naturally and properly, find a ready and unquestioned acceptance.

Data on which the argument for the being of God rests. In every science there are certain postulates. If they are questioned, it belongs to some other science to establish them. There are certain truths of *philosophy* which we assume as granted in Natural Theology.

1. The material universe and various qualities pertaining to it as a whole, or to its parts. These qualities will be noticed as we have occasion to refer to them.

2. Mind,—the soul,—known in contrast to matter, with various qualities, to be noticed as occasion shall require.

3. The principle of causation. We assume that every event in nature can be traced to a source; that every change is due to a cause.

4. There are certain necessary beliefs which the mind is compelled to accept as true, and as the foundation of argument in any department of thought; *e. g.*—that experiences are facts, that we are here, that we are thinking, not dreaming, etc.

5. Moral distinctions; right and wrong cannot be confounded or obliterated.

Preliminary Remarks.

1. Atheism cannot be proved. No one can affirm that there is no God till he has searched out all the universe and is able to say God is nowhere to be found; till he has comprehended all the possible forms of existence and seen that God cannot be. That is, one must be himself God to be able to affirm that there is no God.

Hence, atheism must have its foundation in the feelings, must rise from anger, or desire to resist the orderings of providence. The ancient Greeks considered atheism corruption and vice, and looked upon it as an individual crime. The same view of it may be entertained now, if we may judge from the following quotation furnished by Christlieb: "Gustave Flourens, the late leader of the Red Republican party in Paris, writes in his journal, *La Libre Pensée*, for October, 1870: 'Our enemy is God. Hatred of God is the beginning of wisdom. If mankind would make true progress, it must be on the basis of atheism. Every trace of religion must be banished from the education of our children.' "

2. In all speculation upon the works of nature, and the facts of human experience, there is implied an unseen power, of which the effects are observable.

Matthew Arnold, while denying the proof of the existence of a personal God, speaks of "that something not ourselves which makes for righteousness."

Materialists do not pretend to trace the forces of nature to their source, but accept the primal energy as *given*, or as existing from eternity.

Fichte taught that all existence in time has its root in a higher existence above time.—*Flint*, 414.

Charles Elam, in opposition to Darwinism, says: "Life requires antecedent life."

Dawson says: "The doctrine of the conservation of forces requires a preserver outside the world to counteract its wastes. That the great machine for the dissipation of energy, in which we exist, and which we call the universe, must have a correlative and complement in the unseen, is a conclusion now forced upon physicists by the necessities of the conservation of force. In short, it seems that, unless we admit this conclusion, we cannot believe in the possible existence of the material universe itself, and must sink into absolute nihilism."—*The Origin of the World*, 11.

Clerk-Maxwell says, that the ultimate atoms of which all things are constituted are "manufactured articles."

Julius Müller says: "If law be a power of thought over being, it certainly cannot exist originally and inherently where it exists unconsciously; and thought in nature without a thinking subject is a mere phantom. The laws of nature presuppose a real power of thought guiding her active energies, and they must have their origin and basis in a free and conscious being. Laws can be given only by an actual WILL, and no will is real that is not self-conscious; indeed, thought itself does not become a real power till it is united to will. Undoubtedly there is nothing contradictory in the supposition of an unconscious and instinctive working of nature according to the laws of inherent conformity to the end in view, such as is involved in our conception of an organism. But this only proves a consciousness above nature, as the original seat of this thought and the author of its determining power, by whose will it becomes law. If the coincidence of the active powers of nature with their law be unconscious, it must be determined or decreed from without; real self-determination and unconsciousness mutually exclude one another."—*Doctrine of Sin.*, I, 83.

3. Natural Theology is a subject of practical importance. It is contrary to our instincts and unavoidable convictions, to hold that the question of the divine existence does not present important themes of contemplation and important duties. Men, as a mass, never can be convinced that mere indifference to everything—to good and evil, to truth and error, to corruption and purity—is becoming to the human being. And it will be generally granted, that if anything is important, knowledge concerning God is. If he exists, we ought to be aware of it; if we sustain relations towards him, we ought, as far as possible, to know what they are.

THE BEING OF GOD.

Arguments to prove the divine existence have assumed various forms; the more prominent ones will be noticed.

I. IT HAS BEEN MAINTAINED BY SOME THAT GOD IS KNOWN BY INTUITION.

Our knowledge by the senses is intuitive.

Our knowledge of mathematical axioms is intuitive.

Our knowledge of certain moral distinctions is intuitive.

It is said by some that we know God intuitively. The advocates of this view should say, "We see God, and therefore know that he exists."

This is an assertion which will not command the assent of the world. Those who affirm intuitive knowledge of God, generally explain intuition to mean *necessary implication*. Dr. Hodge says: "So long as men are moral creatures, they will and must believe in the existence of a being on whom they are dependent, and to whom they are responsible for their character and their conduct. To this extent, and in this sense, therefore, it is to be admitted that the knowledge of God is innate and intuitive; that men no more need to be taught that there is a God, than they need to be taught that there is such a thing as sin." He says, also, that our religious feelings necessitate our belief in God; and that men by their nature are bound to believe in God. But a belief necessitated by certain *means* is not properly knowledge rising from intuition.

It is not necessary to deny that a perfect human intellect could see that God exists, as it sees our responsibility to law, but the mind in its present state does not thus see God. Certainly the world at large cannot be convinced that it does.

The kind of intuition of which Dr. Hodge speaks will be noticed hereafter.

President Seelye, of Amherst College, in his inaugural address, thus affirms his belief in our intuitive knowledge of God: "That self-consciousness, wherein we are distinguished from the brute, and in which the very being of reason consists, has not only as its constant attendant, but as its essential prerequisite, the consciousness of God." But the *prerequisite* of consciousness is not a *part* of consciousness.

The term God-consciousness is used by some writers, especially among the Germans; but it can generally mean no more than a feeling or sentiment which *implies* the existence of God, and either is, or requires, *faith* in him.

Dove in his "Logic of the Christian Faith," adduces the "intuitional argument" as that "which actually *does* induce man to believe in the existence of God."

But he immediately confesses that it is not in fact intuitional. "This is termed the *intuitional argument* to distinguish it from the *a priori* and *inductive* arguments; but it must be distinctly premised that this name is selected, not because it expresses the import of the method, but because it may be used as an initial *name*. Intuition *enters* into the argument, and so far the argument is intuitional. Intuition is the starting point—the primary origin of affirmation—the first, but only the first, element of a process of argumentation, which involves *also*, and as particularly, the *a priori* argument and the inductive argument."

With such an explanation any argument, on any subject, might be called *intuitional*.

II. The a priori argument for the existence of God.

An *a priori* argument is sometimes said, loosely, to be one proceeding from cause to effect. But the connection between the premises and conclusion is not necessarily a causal one. When any facts or admitted truths imply a certain conclusion, while they are not accepted as dependent on that affirmed in the conclusion, then the conclusion is reached by an *a priori* process.

An *a priori* argument for the existence of God is one which reaches the conclusion, "*there is a God*," from the necessary elements of thought.

Though these elements of thought may be bestowments of God, yet the inference is not from his act of giving, but from the nature of the elements of thought themselves. Dove says: "The *a priori* argument may be described as a philosophical attempt to prove that the admission of the Divine Existence is a logical necessity *to the human reason*."

The *a priori* argument for the existence of God may be presented in three forms:

1. That which argues from the *content* of a necessary thought, viz.: the idea of God.

2. That which argues from the *form* of thought.

3. That which argues from the *necessary presuppositions* of the form.

1. *Argument from the content of the thought, i. e., from one certain necessary idea belonging to every mind.*

We have an idea of God, therefore there is a God.

Or, more fully:

Every one has an idea of a most perfect being; one element of this perfection is objective reality; therefore, the most perfect being of which we have an idea must have objective reality; and this being is God.

The force of this argument depends upon the truth of the realistic philosophy. It is said that every one has this idea, because every one understands it when it is presented to his mind, *i. e.*, he recognizes it as his own thought, but it did not come to him through his senses, therefore, it must belong to his intelligence, must be a part of his original mental endowment, and must be true and real.

Realism maintains that the essential things are ideas; that we understand fleeting phenomena by means of them. Whatever is found in the intelligence, is the real to us; we have no other test of reality than this.

Such a proof of reality is not now accepted. The utmost that can be inferred from this argument, is that men will always have the idea of God, and to some extent *believe* in his existence. No connection has been established between the subjective idea and the objective thing represented by the idea.

Anselm (A. D. 1033-1109) accepted this argument as valid, and believed it would render atheism impossible.

He says: "I began to inquire whether it might not be possible to find a single argument which, being complete in itself, would need the aid of no other for its confirmation, and which would alone suffice to prove that there is indeed a God, that he is the supreme good, that he is in need of nothing, but that all things else are in need of him in order to their existence and well-being; an argument, in fine, sufficient to prove all that we are accustomed to believe concerning the Divine Nature."

Argument.—"Even the fool" (allusion to Psalm 14:1.) "therefore is convinced that there exists in his conception something than which nothing greater can be conceived; because when he hears this mentioned he understands it, or forms an idea of it, and whatever is understood is in the intelligence. And surely that, than which a greater cannot be conceived, cannot exist in the intelligence alone. For, let it be supposed that it exists only in the intelligence, then something greater can be conceived, for it can be conceived to exist in reality also,

which is greater. There exists, therefore, beyond doubt, both in the intelligence and in reality, something than which a greater cannot be conceived."

Anselm then goes on to show that this something which is greatest of all cannot be conceived not to exist.

"It is possible to conceive of the existence of something which cannot be conceived not to exist, and this is greater than that which can be conceived not to exist. So truly, therefore, does something exist, than which a greater cannot be conceived; that it is impossible to conceive this not to exist. And this art thou, O Lord, our God."

This argument of Anselm was criticised in his day by Gaunilon. He attempted to show its absurdity by applying it to the existence of other beings or things than God, which were conceived to be greater and better than any of their kind. But the objections of the critic are not valid, because the suppositions made do not apply to a necessary idea of the mind—one which we cannot avoid and cannot modify. An island is in itself, by definition, an imperfect thing. Anselm says, alluding to Gaunilon's supposition of a lost island: "I reply confidently, that if any one will find for me any object whatever, existing either in reality, or in the conception alone, to which the reasoning of my argument is applicable, besides that being than which a greater cannot be conceived, I will pledge myself that I will find for him this lost island, and will secure it to him in such a way that it will never be lost again."—*Bibliotheca Sacra*, 1851, 529, 699.

Anselm supposed his argument for the existence of God proved also that God is possessed of all excellencies and free from all imperfections. "What art thou therefore, O Lord God, than whom nothing greater can be conceived? What art thou but that Being who is supreme over all; who alone is self-existent, and has created all things else from nothing. For whatever is not this, is inferior to what can be conceived. But it is impossible to conceive of such inferiority in thee. What good, therefore, can be wanting to that Supreme Good from which all good flows? Then art thou just, true, happy; and, whatsoever, it is better to be than not to be; for it is better to be just than not just; happy than not happy."

Des Cartes (1596-1650) relied upon the *a priori* argument for the demonstration of the divine existence. He held that the idea of God implied his existence, as the idea of a mathematical figure implies its existence, *i. e.*, he agreed with Anselm. He also sought to confirm and reinforce this argument by other considerations. He held that clearness of conception is the test of truth, and that the idea of God is the

clearest of all our ideas, therefore it must be true. He further attempted to establish the truth of the same idea in this way (as some author has presented the case): "We have two kinds of ideas, adventitious and innate. We have an innate idea of such a being as God. This idea could only have been derived from God himself, and carries with it the direct evidence of his existence."

The latter form of the argument is a commingling of two methods of *a priori* argumentation, but the statement belongs here more properly than elsewhere.

Ralph Cudworth (1617-1688) argues at great length against the atheists in his "Intellectual System of the Universe." His learning and acuteness of mind are exhibited mainly in reply to objections, but he seems to have rested for his proof of God's existence on the *a priori* argument, in the form now before us. He says:

"And this is the first step, that we now make in way of argumentation, from the idea of God, or a perfect being, having nothing contradictious in it, that, therefore, God is at least possible, or no way impossible to have been. In the next place, as this particular idea of that which is possible includeth necessity of existence in it; from these two things put together, at least, the possibility of such a being and its necessary existence (if not from the latter alone), will it, according to reason, follow that he actually is. If God, or a perfect being, in whose essence is contained necessary existence, be possible, or no way impossible to have been; because, upon supposition of his non-existence, it would be absolutely impossible that he should ever have been, * * * wherefore, God is either impossible to have been, or else he is. For, if God were possible, and yet be not, then is he not a necessary, but contingent being."—*Int. Syst.*, II., 144-5.

He says, also: "We affirm, therefore, that were there no God, the idea of an absolutely or infinitely perfect being could never have been made or feigned, neither by politicians, nor by poets, nor philosophers, nor any other. Which may be accounted another argument for a Deity."—II., 110.

Dr. Samuel Clarke (1675-1729) published in 1705 his "Demonstration of the Being and Attributes of God." His argument seems to me a mixture of two forms of reasoning. I will give here the outological portion. After I. and II., he states III. thus: "That unchangeable independent Being, which has existed from eternity, without any external cause of its existence, must be self-existent, that is, necessarily existent. Such a Being forces itself upon us whether we will or no. For example, suppose there is no such Being, we still find in our minds some ideas,

as of infinity and eternity. These ideas it is impossible to remove. But these are modes or attributes of existence. Therefore the substance to which they belong must exist."

The assumption in this argument that infinite time and space (for Clarke means immensity by infinity) are attributes, would not generally be granted. They are forms of thought; it is not even agreed that they have objective reality. Immensity — infinitely extended space — cannot be apprehended as an attribute of spirit.

Hetherington, however, defends Dr. Clarke in maintaining that space and time are attributes. He says finite space and time are attributes, and so are infinite — attributes not like wisdom, but a condition of being, modes of existence necessarily inherent in necessary being. On this point he criticises, disapprovingly, Chalmers, Reid, Brown, etc.—35.

Dugald Stewart says that Dr. Clarke's manner of stating his argument is supposed to have been suggested by a passage in Newton's Principia. Newton, speaking of the Deity, said: "*Durat semper, et adest ubique, et existendo semper et ubique, durationem et spatium constituit.*" Stewart admits his own doubts and difficulties as to this argument after quoting from Dr. Reid the following: "These are the speculations of men of superior genius; but whether they are as solid as they are sublime, or whether they be the wanderings of imagination in a region beyond the limits of human understanding, I am unable to determine."

Stewart says, however: "I think it must be acknowledged that there is something very peculiar and wonderful in those conceptions of immensity and eternity which force themselves on our belief. Nay, further, I think these conceptions furnish important lights in the study of natural religion. It may be worth while to add that the notion of *necessary existence* which we derive from the contemplation of space and time render the same notion, when applied to the Supreme Being, much more easily to be apprehended than it would otherwise be."—V., 226.

It will never be possible to determine the exact value of this argument from the content of the thought till we know more of the origin of knowledge. But the argument has never been popularly convincing, probably never will be.

Cudworth says of Des Cartes' argument, which he states thus, "God, or a perfect being, includeth necessary existence in his very idea, and therefore he is:" "It is certain that by one means or other, this argumenth hath not proved so fortunate and successful, there

being many who cannot be made sensible of any efficacy therein, and not a few who condemn it as a mere sophism."—II., 140.

John Howe (1630-1705) describes and criticises Cudworth's argument very nearly as Cudworth had criticised Des Cartes'. He says: "I see not, but treading those wary footsteps which the incomparable Dr. Cudworth hath done, that argument admits, in spite of cavil, of being managed with demonstrative evidence. Yet since some most pertinaciously insist that it is at bottom but a mere sophism, therefore I have chosen to go this other way."

Howe's "other way" was no more successful than that of his predecessors.

2. *The a priori argument for the being of God based on the necessary forms of thought.*

Thinking is subjecting facts to an orderly arrangement. The apprehensions of the sense are not thought; but the comprehension of the things apprehended by the sense, in and by means of the forms of the intellect, is thinking. These forms of thought the intellect furnishes and imposes upon nature. Though they come out into clear consciousness only after experience, yet in the logical order they precede experience, and are presupposed in all scientific knowledge of phenomena.

Cudworth states the principle in this way: "But sensible things themselves (as, for example, light and colors) are not known or understood either by the passion or the fancy of sense, nor by anything merely foreign and adventitious, but by intelligible ideas exerted from the mind itself; that is, by something native and domestic to it." And he quotes from Boetius: "*Omne, quod scitur, non ex sua, sed ex comprehendentium natura, vi, et facultate cognoscitur.*"

Professor Bowne says: "We hold that knowing is not a passive reception of impressions, but an active construction of them into a rational system."—*Theism*, 131.

Again he says: "If then the mind have no principles of interpretation in itself it can never get beyond the plane of sensation, and attain unto perception and cognition."—123.

These principles of interpretation are the necessary forms of thought, and are sometimes called the categories. We need not attempt here to enumerate them, that belongs to psychology; but they are such principles as these: cause and effect, substance and attribute, event and source, time, space, quantity, quality. Of anything that occurs we say, on the authority of our own minds, it has a *when* and a *where*, a *cause*, a *quality*, etc. In other words, we think things under

relations, and there are certain necessary relations without which thought is impossible. The relation of attribute to substance is necessary; we cannot think one without the other. So when we observe an event, the assumption of a source is instantaneous and inevitable.

The form of the *a priori* argument now before us aims to prove the existence of God from some of these relations.

a. The relation of cause and effect compels us to assume the existence of God. The facts of experience cannot be otherwise explained. If the world as a whole is known as an effect (and it impresses the mind as such) it must have a cause outside itself; that cause must be sufficient for the effect, otherwise a part of the effect is without cause.

Inasmuch as man is a part of nature, so far as he is not the source of the power he exercises, we may argue from the facts of his life as from other events. Man has rational ideas; he puts forth mental exercises; he exercises æsthetic and spiritual emotions. The original source of the powers involved in these exercises must be outside himself. The cause of these effects, the source of these events, is God, or a power which we are impelled to call God.

Care should be taken not to confound this argument with the *a posteriori* cosmological argument for God's existence. In the *a posteriori* argument the principle of causality is assumed as it is here, but in that case we go from a definite effect to *the* cause which produced *that* effect. In this case we merely affirm the existence of a relative involved in the principle of cause and effect. The conclusion of the *a posteriori* argument is *the creator* of a certain object; in this it is a power required to complete a form of thought. The *a priori argument* is good; as an argument, though, it is merely subjective; the *a posteriori* is good only as dealing with objective realities.

Kant considered the *a posteriori* argument subjective, and so futile, being merely the *a priori* in disguise.

b. Some being stands to certain objects which fall under our knowledge in the relation of preserver or upholder. This being is known as God.

This relation has been made more prominent in the *a priori* argument than that of cause, but the ground of the argument is the same in each case; viz., that which is dependent must owe its existence to that which is independent; that which is transient must owe its existence to that which is permanent; that which is temporary must owe its existence to that which is eternal.

This relation of the created to the uncreated is assumed as a clear postulate, to be admitted without discussion. The argument is: something now is, therefore something always has been; nature and finite mind are, and are dependent, therefore they owe their existence to that which is independent. The independent and uncreated one must be God.

This method of presenting the argument is an old one, and has received very general assent, except that the meaning of the term *God*, as the independent source of transient existences, would be made a subject of discussion.

Plato and Aristotle assent to the validity of this argument.

Aristotle says: "There is a perpetual unmoved mover. There is something by necessity both absolutely and accidentally without change. This will be one rather than many. It is necessary always, and therefore continually." He seems to have here in mind the motion—the sum of changes—in the universe as a whole, and to speak of the *relations* of moving things rather than the cause of the motion, for he says: "Since there is that which is moved, not by itself, but by another, it is consistent with reason, not to say necessary, there is a third thing that moves, being itself unmoved."

Dr. Samuel Clarke combines this argument with that from the content of the thought. He says: "Something now is, therefore something always was, for something cannot come out of nothing. There has existed from eternity some unchangeable and independent Being, otherwise a series of changeable dependent beings must exist without any original cause, which is absurd."

Hetherington says: "It is a logical necessity of thought, that if there be finite being, there must be infinite being; if there be caused existence, there must be uncaused existence. By the same logical necessity, if there be a finite moral person, there must be an infinite moral person."—30.

Joseph Cook has affirmed with much vehemence the reality of the relation of dependence, and the reality of *both* relatives, if either is real.

Cudworth says: "Dead and senseless matter could never have created or generated mind and understanding, but a perfect and omnipotent mind could create matter. Wherefore, because there is mind, we are certain that there was some mind or other from eternity without beginning; though not because there is body, that therefore there was body or matter from eternity unmade. Now, these imperfect minds of ours were by no means themselves eternal or without beginning, but from an antecedent non-existence brought forth into being;

but since no mind could spring out of dead and senseless matter, and all minds could not possibly be made, nor one produced from another infinitely, there must of necessity be an eternal unmade mind from whence these imperfect minds of ours were derived."—II., 150.

c. Men exist as subjects of moral authority, and this requires a belief in the existence of God.

If our subjection to authority is real, the existence of the authority must be real.

But there is no fact more clear, more constant, or more readily acknowledged than our sense of responsibility. And if we are responsible, it must be to some one; we cannot answer for our conduct unless there is a tribunal to which we answer. Our responsibility relates to moral character, to our highest interests, to our relations with our fellow-creatures, and, therefore, the one to whom we are responsible must have in charge our highest interests and the highest interests of all men.

The one to whom we are responsible must be God.

The *material* used in presenting this form of the argument allies it with the moral argument, to be hereafter noticed, but the *form* here is strictly *a priori*. And the illustrations given, though connected with morals, are as much within the realm of observation as any fact of nature. Moreover, the illustrations of this argument might be so presented as to show that *b* and *c* are in close alliance. God, as a preserver and upholder, sustains the order of the world, *i. e.*, he enforces its laws, and in holding men to their responsibility, in enforcing upon them their duty, he enforces law. His office in the two cases is the same, and it is impossible to draw a line between the laws by which nature is sustained and those by which society is sustained, so as to make them appear to belong to wholly separate realms, or so as to make the grounds for the enforcement of law wholly different in the two cases.

One or two illustrations will show the character of this argument, and show how the moral and natural may be combined in it.

1st. The proverb "Your sin will find you out," is not drawn from experience, but only suggested by it, for it is admitted that sin does not receive its due punishment in this life. This proverb is evidence of a conviction in the minds of men that judgment and punishment follow sin, and is confession of an unknown power that surely executes justice in the world. This power, when properly understood, is known as God.

2d. It is universally admitted that it is wise for any one to pay a scrupulous regard to the dictates of his own conscience. Conscience

gives commands based on authority, not on expediency, nor on any power *it* has to execute its requirements. The wisdom of obeying conscience is not then a prudent fear one has of himself, as if he were stronger than himself and were to punish himself, but is the conviction that conscience represents a power whose just anger it is unwise to provoke. Such a power is, so far as the case requires, God.

3d. Every man considers that the effort of his life should be to attain the perfection of human character. This is an ideal confessedly never realized in any experience on earth. This sets before us the practical duty of striving for that not attainable by means within our control. This ideal, this duty, and this impossibility for the present, compel us to make the supposition, if not the assumption, of a future life. A passage into a future life, with subjection there as here to a law of duty, compels us to the supposition, if not assumption, of a Ruler of both worlds, who orders their events. Such a being would be God.

d. Scientific thought rests only in the absolute. We are compelled by the forms of thought, by necessary belief, to attribute every event to a cause, and there is no cessation in the process of tracing back events to their causes unless we rest in an absolute. When we find an efficient cause, which, actuated by a final cause, inaugurated a movement, then we rest in our search for a cause.

It is not necessary to science, in some sense of the word, to find this absolute cause. We are not compelled to ask for a final cause in order to give a scientific form to knowledge; but our thought is not complete, the mind does not rest, till it finds an absolute. The real absolute is God.

We turn now from the argument from the forms of thought, or from the categories, to that from the *use* of the categories.

3. *Argument for the existence of God from the necessary conditions or presuppositions under which the form of thought is, in certain cases, applied to the material of thought.*

Some thinkers hold that scientific knowledge presupposes the existence of God. Our experience brings before us a mass of facts. We apply to them the categories of the understanding, and bring them into an orderly arrangement, in accord with the forms under which we think. How is it that these facts are susceptible of such an arrangement? It is said to be, simply, because the being who imposes on *us* the categories according to which thought proceeds, has imposed on nature the laws that bring *it* into accord with the categories. Conse-

quently, the mere act of thought—the mere attempt at scientific knowledge, is a confession or an assertion that God is the author of nature. The argument is: scientific knowledge is nothing but a recognition of God's laws impressed on creation, consequently the acceptance of the knowledge is an acceptance of God, the source of the knowledge.

This argument must be distinguished from the *a posteriori* argument, which *infers* the existence of God from the intelligibility of nature. We may read certain works of nature and say they mean this and that,—the eye means seeing, the ear means hearing, and confess to a belief that the author of these works is a being of intelligence, but that is not the argument now before us, because a denial of the conclusion would not be a denial of the premises; while in a valid *a priori* argument, the denial of the conclusion is a denial of the premises. But there are some who make science the ground of an a priori argument for the existence of God, and maintain, that, to say, I understand nature by knowing its lines of cause and effect, its similarities, its laws of development, its aims, but do not by this know of the existence of God, is a contradiction; or that science without God is an absurdity.

Cudworth replies to the atheistic position, that things must be before they are known, hence mind or understanding can not be the creator of things, and that to suppose this "is no better sense than if one should suppose the images in ponds and rivers to be the makers of the sun, moon, and stars, and other things represented in them." "The human mind hath a power of framing ideas and conceptions, not only of what actually is, but also of things which never were, nor perhaps will be, they being only possible to be." "Therefore, human knowledge and understanding itself is not the mere image and creature of singular bodies only; and so derivative, or ectypal from them, and in order of nature junior to them, but that, as it were, hovering aloft over all the corporeal universe, it is a thing independent upon singular bodies, or proleptical to them, and in order of nature before them:" This power or prerogative of the mind he accounts for by the fact that the first original knowledge is that of a perfect being. "Here, therefore, is there a knowledge before the world and all sensible things, that was archetypal and paradigmatical to the same. Of which one perfect mind and knowledge all other imperfect minds have a certain participation."—II., 151–155.

Prof. Bowne gives us the same thought in still more positive language. He says: "That mind speaking its own language, and work

ing according to its own laws, should agree with things which also speak their own language and have their own laws, is forever inexplicable without the assumption that nature is only thought realized in objective facts."—126.

"As the categories are primarily movers of mental action and manifestation, and since the physical universe is but these catagories realized, there is good reason for believing that the simple existence and knowability of the world points to a rational power which is realizing rational principles in it."—133.

He sums up his views in the postulates of scientific knowledge thus: "We conclude, therefore, (1) from the skeptical outcome of atheism and pantheistic substantialism; and (2) from the positive necessities of scientific theory, that God is as much a postulate and support of science, as he is of religion."—145.

Professor Means, in an article in the Bibliotheca Sacra, April, 1877, speaks of Aristotle's views of motion, (this would involve the operations of the Universe,) and quotes from him this expression: "God himself completed the whole, making a continuous development."

Professor Means also cites Mr. John Fiske, Professor at Harvard College, as admitting, in certain papers published in the *Atlantic Monthly* for 1876, that he was "not unwilling to admit that the grand assumption on which all science rests—'the principle of continuity,' 'the uniformity of nature,' the 'persistence of force,' or the 'law of causation'—is a supreme act of faith, the definite expression of a trust that the Infinite Sustainer of the Universe will not put us to permanent intellectual confusion."

President Porter advocates this view in connection with induction and final causes, but seems to accept the validity of the argument in connection with science in general. He says:

"We do not demonstrate that God exists, but that every man must assume that He is. We analyze the several processes of knowledge into their underlying assumptions, and we find that the assumption which underlies them all is a self-existent intelligence, who not only can be known by man, but must be known by man, in order that he may know anything besides.—*H. I.*, 662.

Flint, in his Philosophy of History, speaking of the German philosopher, Krause, says: "The knowledge of God is, according to Krause, the true and living root of all knowledge; theology the fundamental science. Nay, the sole task of science is reduced by him to the apprehension of God in Himself, and to tracing how he manifests and mirrors himself in the world, reason and humanity. Philosophy,

as the universal science, ought thus to be a delineation of the organism of the divine life. In common with his contemporaries, Jacobi and Baader, Krause denied that the existence of God could be, properly speaking, proved, being necessarily and immediately certain, and, in fact, the pre-supposition of all proof. At the same time, he admitted that the so-called proofs were most valuable in awakening the mind to a consciousness of what is the light of all our seeing, the condition of all our knowing."—p. 476.

The following views are not unlike that now presented, making God the pre-supposition of knowledge.

John Howe presents approvingly the following: "By whatsoever steps any one should advance in the denial of a Deity, they should proceed by the same to the abandoning of their own humanity; and by saying there is *no God*, should proclaim themselves *no men*."—*Vol.* I., 10.

Howe did not rely on this argument in proving the existence of God. His formal argument is 2 b.

Dr. Clarke says: "If any one now asks, what sort of an idea the idea of that Being is, the supposition of whose non-existing is thus an express contradiction, I answer, it is the first and simplest idea we can possibly frame; an idea necessarily and essentially included or presupposed, as a *sine qua non*, in every other idea whatsoever; an idea which (unless we forbear thinking at all) we cannot possibly extirpate or remove out of the mind."

There is at present a tendency to put forward the *a priori* argument rather than the *a posteriori*, in proof of God's existence.

The favorite one is probably 2, especially the form of it given under *c*, is accepted by many as convincing. The form 3 will not generally be accepted as carrying conviction with it. Its assumptions are such that it will appear to many to beg the question.

There is no demonstration of such an identity of subjective and objective science as to necessitate the conclusion. If our sciences do not represent objective truth they are not by that put out of existence; and if they do represent it, it does not follow from *this* alone, that God made the things represented. If 3 is indisputably valid in any case it is when the premises are drawn from our own experience, are of a moral nature, and are used to establish the *being* of God from the necessity of his being pre-supposed in a moral system.

The *a priori* argument, as a whole, is one of power and influence, if not of demonstration. Those who rely on the *a posteriori* argu-

ment, carry along with them, in their speculations, the thoughts and sentiments connected with the *a priori*.

Dr. Chalmers seems to admit that we assume the existence of that which is necessarily implied in a relation of which we are conscious, *i. e.*, the existence of God from the fact that we are responsible, and so responsible to some person. He does not present the thought in this form, and denies that his presentation of the case is an *a priori* argument; but his idea of an *a priori* argument may not have been precisely that here adopted. He says:

"The theology of the conscience is not only of wider diffusion, but of far more practical influence than the theology of academic demonstration. The ratiocination by which this theology is established is not the less firm or the less impressive, that instead of a lengthened process there is but one step between the premises and the conclusion, or that the felt presence of a judge within the breast powerfully and immediately suggests the notion of a Supreme Judge and Sovereign who placed it there. Upon this question the mind does not stop short at mere abstraction; but, passing at once from the abstract to the concrete, from the law of the heart, it makes the rapid inference of a law-giver. * * * There is, in the first instance, cognizance taken of a fact—if not by the outward eye, yet as good, by the eye of consciousness, which has been termed the faculty of internal observation. And the consequent belief of a God, instead of being an instinctive belief of the Divinity, is the fruit of an inference grounded on fact. There is instant transition made from the sense of a Monitor within to the faith of a living Sovereign above; and this argument, described by all, but with such speed as almost to warrant the expression of its being felt by all, may be regarded, notwithstanding the force and fertility of other considerations, as the great prop of natural religion among men. * * * There may be here one transition from the premises to the conclusion, but done with such rapidity by the mind that it is not conscious of an argument."

The reality and worth of this conviction he argues from the fears and forebodings of the heathen in view of sin, because of the monitions of conscience. He says: "Whence their fears of a coming vengeance? They would not have trembled at Nature's law apart from the thought of Nature's Law-giver. The imagination of an unsanctioned law would no more have given disquietude than the imagination of a vacant throne. But the law, to their guilty apprehensions, bespoke a judge. The throne of heaven, to their troubled eye, was filled by a living monarch.—*Nat. Theol.*, I., 330, 335.

The *a priori* argument indicates, at the lowest estimate which can be put upon it, a tendency in the mind to seek after God. There is a kinship between our necessary ideas and the idea of God. This argument therefore prepares us for the search for indications of a Deity in nature. We are impressed by it and by our own nature, even if the argument is not put in words, with the duty of asking whether or not there is a God. Dr. Chalmers says: "The truth is, that there is a certain rudimental theology everywhere, on which the lessons of a higher theology may be grafted — as much as to condemn, if not to awaken, the apathy of nature."

Chalmers says again: "We might well assume this point (bare atheism, not knowing God) as the utmost extreme of alienation from the doctrine of a Creator, to which the mind of a creature can in any circumstances be legitimately carried. We cannot move from it, in the direction towards anti-theism, without violence to all that is just in philosophy." He then asks if there is anything which should lead us to look in the other direction, and affirms that even the imagination of a possible God lays men under obligation to seek for the indications of his existence and to live in accordance with that system of morals that consists with his existence.

But these impressions in real life effect far more than the demand to ask whether or not there is a God. It is not best to rely upon them for any other result, but many of the best minds shrink back with a strong instinctive aversion from the thought of atheism, and would consider it but the performance of an unwelcome duty to discuss the probabilities of the divine existence. Bacon says: "I had rather believe all the fables in the Legend, and the Talmud, and the Alcoran, than that this universal frame is without a mind. * * * Nay, even that school which is most accused of atheism doth most demonstrate religion, that is the school of Leucippus, and Democritus, and Epicurus. For it is a thousand times more credible that four mutable elements and one immutable fifth essence, duly and eternally placed, need no God, than that an army of infinite small portions, or seeds unplaced, should have produced this order and beauty without a Divine Marshal."

The force of the considerations now presented is generally admitted, even when the validity of the argument as a demonstration would be doubted. All theologians recognize the tendency of the mind to believe in God. Calvin says: "We lay it down as a position not to be controverted, that the human mind, even by natural instinct, possesses some sense of a Deity." Again he says: "It will always be evident to per-

sons of correct judgment, that the idea of a Deity impressed on the mind of man is indelible. That all have by nature an innate persuasion of the divine existence, a persuasion inseparable from their very constitution, we have abundant proof in the contumacy of the wicked, whose furious struggles to extricate themselves from the fear of God are unavailing."—*Inst. B.*, I., Ch. 3.

Turrettin says: "Men must believe in some God whether they will or not, whom right reason teaches them to fear, whom it commands them everywhere to recognize as Lord and Judge of all "

Professor Fisher says: "It is remarkable that in Germany almost all the writers of note, of all schools in philosophy, unite in regarding belief in God as an immediate act of the soul, and as rooted in feeling."

III. THE A POSTERIORI ARGUMENT FOR THE EXISTENCE OF GOD; OR, INFERRING THE EXISTENCE OF GOD FROM HIS WORKS.

With most minds the *a posteriori* argument is the one most readily understood and most convincing. It is the argument to which appeal is made in the Bible. "The heavens declare the glory of God," is an *a posteriori* argument; as is also the assertion of Paul in Rom. i. 20: "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead." [See, also, Heb., xi., 3.]

The *a posteriori* argument requires, however, as has been noticed, a state of mind naturally produced by the *a priori* argument. It is not necessary here that the validity of the *a priori* argument be admitted, but it is necessary that the same primary truths and axioms be accepted in each case. A universal doubter cannot be convinced of anything, if he persist in nullifying his own thoughts and contradicting himself he is not susceptible of any convictions.

The *a posteriori* argument is the argument from effect to cause. It does not attempt to show that the existence of God is implied in the very facts of consciousness and the necessary beliefs of the mind, but that the facts of our observation and experience must be referred to God as their author. God may not be known simply as a cause through this argument, but the principle of causation is always involved, whether we proceed from effect to cause, or from existence to its author, or from experience to the influences which produced it.

The *a posteriori* argument may be distinguished from the *a priori* this way: It passes from the subjective to the objective at the premises not at the conclusion. All thought is subjective; it is the ego that knows. The object of thought may be thought as having external existence sometimes at one stage of the process, sometimes at another. In the *a priori* argument for the being of God, except in the realistic or ontological form, God himself is the first object to which external existence is attributed. He is involved in the thought. In the *a posteriori* argument, external or objective existence is attributed to the premises. As objects of thought they are considered as having objective existence, and then the being of God is inferred from their objective existence, or something known of their objective state.

1. *The cosmological argument, that from the cosmos.*

In this argument the principle of causation is made prominent, and is the ground of the argument. The argument to prove a creator may be thus stated:

a. All substances which are dependent for their existence must have had a creator as their cause.

b. Matter and finite mind are thus dependent.

c. Therefore they must have had a creator.

Every effect must have an adequate cause, so that the inference is valid that there must be a cause of matter and finite mind so far as they are dependent. If it could be shown that they were called into existence from nothing, then the inference would be unavoidable that they owe their existence to a creator. If it can be shown that matter receives its laws and its order from a power outside itself, then the inference is unavoidable that there is an author of the cosmos,—of the order of nature,—though we can not infer an absolute creator. If it can be shown there is immanent in matter a force (the position of the materialist), or an accumulation of forces, adequate to account for all the processes of nature, then there is no ground for inferring a supra-mundane author of nature.

The first question to be asked, therefore, is, how far is nature dependent; to what extent is matter and finite mind dependent?

1. *The world is not known to us as necessarily existent.*

There is no absurdity, nothing in contradiction to our necessary beliefs, to suppose it not existing. We can see no reason for its existing as it is, or for its being neither increased nor diminished. We can suppose there was a time when it did not exist, or may be a time when it will cease to exist, or when another universe shall be brought into existence, and do no violence to the necessary laws of thought.

On the other hand, it is only by investigation that we convince ourselves that matter is never destroyed. It is not because of the absurdity of the conclusion that we refuse to believe that fuel consumed by fire is annihilated. There is no contradiction to necessary thought in supposing that our minds began to be and will cease to be. Our immortality is not an axiom: it has always been treated as a problem. It is true, we cannot comprehend the beginning and the cessation of existence, but we cannot deny them.

2. *Matter is dependent for its form, and matter and finite mind are dependent for their efficiency.*

The mind acts only from motives or stimuli, and is conscious that it did not produce itself, and that it cannot prolong its existence or preserve its present modes of action. The forms of matter are the result of laws to which matter is subject. Crystals are formed by law. Combinations through chemical action are formed in definite proportions, the quantity of each element being fixed by law; the molecules that are the basis of compound substances are, it is supposed, composed of a determinate number and arrangement of atoms, and atoms themselves are said to be manufactured articles.

3. *It is the most rational view that matter and mind owe their existence to a creator.*

a. Life in the world must have been originally an endowment from a being outside the world. All life is from antecedent life. No material substance is the adequate cause of life, it must have had its source in an extra-material author.

b. The human spirit must have had an immaterial author. Matter is not an adequate cause of mind. Mind did not create itself. It is constantly conscious of a dependence that denies self-sufficiency and eternity. It is endowed with self-consciousness and self-determination, which distinguishes it from matter, yet its self-determination confessedly does not control its destiny. For its origin and its end it must be dependent on a higher power.

c. The ultimate atoms of matter are dependent upon an author. This is on the supposition that there are ultimate atoms. Atom is a term used to put an arbitrary stop to the subdivisions of matter, for matter is divisible always. But if there are actually concrete atoms, these have a structure, are subject to law, are endowed with properties, and are either of one kind manifoldly endowed, or of different kinds differently endowed. In any case they are subject to a power superior to themselves. There can, at least, be no possible objection to the theory that they come into existence at the will of a creator.

We conclude, therefore, that matter and finite mind are dependent to such a degree, that the cosmos must have an author, and matter, probably, must have a creator. (The uncertainty on this last point, it may be remarked, is removed by revelation. The author of the cosmos affords sufficient ground for establishing a revelation.)

The cosmological argument, in its simplest form, does not affirm the existence of a personal God, but simply an adequate cause for the creation. But when we study more minutely the works of God, and ask who endowed us with personality and free will: who planned those organic structures that fulfill the offices of life, we are led to infer the wisdom and other personal qualities of the Deity. "He that planted the ear, shall he not hear?"—*Ps.* xciv., 9.

Objections to the Cosmological Argument.

Objection 1. The law of cause and effect is simply a law of nature, learned from experience: it cannot be accepted as a law of the supernatural world, and can at best only lead us to a God who is a nature and a part of nature.

Reply 1. The principle of causation is not derived from experience, but is received as an intuition of the mind. See Porter's "Human Intellect," 572, 592.

2. A cause is not of necessity bound to the effect as of the same kind with it. The human will produces effects of different kind from itself. The builder of a house differs from the house: God, the Creator, may differ from the world. Heb., iii., 4. He comes to us across the chasm between the finite and infinite, in the work of creation.

Obj. 2. There is no evidence that matter was created. It is more logical to assume the eternity of matter than of God, for we know the existence of matter, but not that of God.

Rep. 1. It is not more logical to assume the eternity of matter than of God.

a. Matter cannot be alone eternal, for it furnishes no *primal* cause of the effects which confessedly appear within it. Some power with control over it must have existed before it, or be coetaneous with it.

b. It cannot, from its nature, be eternal. If it is eternal, it must exist of necessity, or have the ground of its existence in itself; but it does not exist of necessity, so far as it is known to us, for,

1st. It is not absurd, nor contradictory, to fundamental thought to suppose its non-existence, as we have already seen. We believe that it exists for a moral purpose.

2d. Matter does not seem endowed with any aim or tendency of its own, and therefore suggests no ground of its existence. When changes are forced upon it, it does not restore itself to its original state: it passes, without struggle to return, if not connected with life, from a higher state to a lower.

3d. Matter is not omnipresent; there is no reason why that necessarily existing should be in one place rather than another.

4th. Different portions of matter are often at war with each other. That which exists of necessity must exist ultimately in harmony with itself.

5th. That which exists of necessity must in some view be perfect; but matter seems ever in struggle, and at no point perfect. At least what seems to us its excellence, its higher exhibitions of force, is factitious, transient, and subject to decay. Its manifestations in connection with life are brief, and when the vital principle is gone, matter tends rapidly to the inorganic state.

2. In every exhibition that matter makes of itself, it exhibits dependence; its minutest atoms are subject to law and fitted to obey.

It is therefore necessary to assume the eternity of that on which matter depends for its forms and manifestations. Matter cannot therefore be eternal unless we assume the existence of a substratum without qualities, without force, which is unthinkable.

Dr. McCosh says: "The intellectual man who sits in the chair of Playfair tells us that 'all portions of our science, especially that beautiful one, the dissipation of energy, point unanimously to a beginning, to a state of things incapable of being derived by present law — of tangible matter and its energy — from any conceivable previous arrangement.'" Dawson uses language to nearly the same effect, and says, all naturalists would now assent to its truth. "The origin of species is a mystery and belongs to no natural law that has yet been established."—*Dawson*, "*Origin of the World*," 345.

Obj. 3. If we demand a cause for the existence of matter, and find it in God, then we must find a cause for the existence of God The objection is this, the mind does not rest in a first cause, it does not recognize a first cause, it knows of no stopping-place in ascending from effect to cause.

Rep. 1. We have not found in the cause, to which we trace dependent existences, anything dependent or mutable; therefore we have nothing to seek in reference to it.

2. For aught we know, the being, to whom we trace the existence of the world, is self-existent, and there must be some self-existent being who is the source of that which is not self-existent. "*Nothing comes of nothing*," is a law of thought.

3. The mind does find a resting place in its search for a cause. It does recognize a first cause. It rests in an Absolute, who embraces in himself the beginning and the ending, who forms purposes and puts

forth power to execute them. Such a conception is consonant with the laws of thought and involves no relations which imply farther and unknown existences.

"The principle of causation involves a belief in a *first* cause, or a cause which is not also an effect, otherwise the series is one of effects without a cause, which is absurd. Eliminate the element of time (which is not a cause) and the series becomes like a single momentary event, which would be an event without a cause."—*H. B. Smith.*

Obj. 4. It is said that the changes in the world can be accounted for from the development of forces inherent in matter; that we have no reason for going beyond matter to find a force by which the world is constructed.

This view is somewhat popular at present. Professor Bowne says: "The crude materialism of the past, which aimed to get the higher out of the lower, the living from the dead, sensibility from insensibility, and thought from the unthinking, must be abandoned." He also quotes Tyndall as styling such a scheme "absurd," "monstrous," "fit only for the intellectual gibbet," and as defining matter thus: "Matter I define as the mysterious something by which all this has been accomplished," *i. e.*, by which all that appears in the universe has been accomplished. This is the old doctrine of hylozoism. Janet says: "There is a common tendency at present in several schools to adopt a middle theory between the Epicurean theory of fortuitous combinations and the Leibnitzian of intelligent choice. This mongrel theory is nothing else than the old theory of hylozoism, which attributes to matter sympathies, antipathies, affinities, preferences — things that are all absolutely opposed to the idea of it.—*Final Causes*, 409.

Remark.—Whatever forces are immanent in nature (and it is consistent with theistic doctrine that second causes have efficiency) these do not exclude a controlling force outside of nature, which conferred the forces and directs their development. Janet remarks that we see continually impressions made upon children which control many of their actions. They imitate and obey without thinking. "Parents insinuate by example, by a certain tact, by caresses, etc., a thousand dispositions and inclinations into the soul of their children, of which the latter are unconscious, and which direct them, without their knowing it, towards ends they know not of — for instance, virtue, wisdom, happiness." Artists — sculptors or poets — impress their own thoughts and feelings on mere dead matter, so as to awaken in spectators or hearers the feelings with which they worked.

These illustrations show that objects in nature may, beyond the forces immanent in them, be endowed with other forces from without.

Rep. 1. The changes of the world cannot be accounted for by the development of the forces of matter. The present races of animals have not been long upon the earth, and they cannot be shown to be a development of previous races. The most perfect animal structures have not been developments. Dawson says: "High types of structure appeared at the very introduction of each new group of organized beings, a fact which shows that elevation has always been a strictly creative work."—*Origin of the World*, 348.

There was a time when there was no life on the earth; it has never been shown that animate things rise from inanimate. Every germ producing life seems to have been the product of a living creature.

2. The inference of powers immanent in matter adequate to produce the operations of the universe is an inference of the same kind as that which affirms a supra-mundane creative power.

The atheist's inference has no advantage for simplicity, plausibility or probability over that of the theist. The object inferred in each case is unseen, unknown, except through effects. The theist infers from the works of nature a Supreme Almighty Power controlling all things; the atheist accounts for effects seen in nature by assuming the existence of forces adequate to the effects, adhering to myriads of unknown assumed atoms, each atom in its sphere being a little god.

The question to be decided is, which inference is the most rational? If there were nothing in favor of theism afforded by other considerations, and the question were to be decided from the single topic before us, for simplicity, for adequacy to meet the demands of the case, for analogy with the observed forces in nature, the inference of the theist must have a clear preference.

3. This theory of endowed atoms does not account for the *concurrence* of atoms having affinities. How do those atoms fitted to form an eye come to fall together, and how those fitted to form an ear? Tyndall says, matter is that which has power to do just what is done. The thing done is, making organs, animals, crystals, etc. Science should tell us, or try to tell us, where the power resides. What brings together the pre-adapted, properly endowed, particles? If they rush together from different directions, then the power that causes the collecting of the right number, no more, no less, must be outside the particles themselves, which is a renunciation of the theory; or the atoms of eye-matter, tongue-matter, ear-matter, must form communities and send off colonies as they are needed in special cases. But

this requires an outside intelligence-office to send in orders, and is a renunciation of the theory.

If one particle has sovereign power over other particles to communicate the desired quality to them, and appropriate them in forming an organ, this would raise the question, whence has it its superior power? This supposition accords well with observation. The germ from which an animal is formed, or an organ is formed, is not the animal or organ in miniature, it is a germ with the power to create its destined form by appropriating matter, cell by cell, to itself. But whence comes the power? How do these regal dominating atoms acquire the power of adapting means to ends and of fulfilling purposes? And in what council do the dominant eye atoms and foot atoms, etc., agree to form the eye of the horse or the foot of a man?

A system of this kind becomes so complicated that it is not worthy of comparison with a system which postulates a ruling and planning God.

The objections to the cosmological argument introduce not only the subject of power, to which the argument in strictest form is confined, but introduce the subject of design, which is more properly treated under another head.

2. *The Teleological Argument.*

This is the proof of God's existence, and more especially of his character, from final causes. By the aid of *this* argument we are able to ascribe to God—already known through other arguments—a great variety of attributes involving intelligence and moral feelings.

The argument may be stated thus:

Every adaptation of means to ends proves the existence of an intelligent cause which adjusted them.

Dr. Hodge presents the argument in this way:

"*Design supposes a designer,*

The world everywhere exhibits marks of design,

Therefore, the world owes its existence to an intelligent author."

Professor Bowen gives us this statement:

"*A great number of intelligent agents, being found to work by a complex and intricate, yet orderly process, towards the attainment of some end, there must exist an intelligent and active being, who has had this end in view, and who made this disposition of the agents as means for its accomplishment.*"

This argument supplements the cosmological, since, by selecting particular instances of design, we may find grounds for attributing to God traits of character involving intelligence, skill and moral excellence. This argument is susceptible of the most varied and abundant illustrations, and by its fullness and surprising pertinency, carries an almost irresistible conviction with it. The adaptations of nature to man's wants, whether we consider him as an animal, a social being, an an intelligent being, a moral being, or a being of æsthetic endowments, the adaptation of the organs of the physical frame to the offices they perform, almost overwhelm opposition and compel the assent of the mind to a most skillful designer as the author of nature.

Professor Fisher says: "The proof from design in the works of nature is one of the oldest, most universally impressive and justly convincing of the various arguments for a personal God. It has been set forth by a series of writers from Socrates and Cicero to Paley, and acquires fresh illustration with every new discovery in physical science."

PRELIMINARY.—It is not difficult to understand how this teleological argument should have such power of conviction for our minds. Our own experience carries us to the conclusion before we have ever given a formal statement to the premises.

1. We are conscious of controlling things within a certain range in accordance with our own wishes. Our reason gives law to events which occur through our volitions.

a. By adaptation of ourselves to our conditions and circumstances, we guard against what might otherwise seem fated events. For example, we save ourselves from frosts or excessive heat, from floods and fires, by the precautions which we adopt.

b. By prudence we save ourselves from accidents, which might at first thought seem the results of chance. For example, we guard against famine in years of scant production; we guard against collisions with others by agreeing beforehand upon the rights of each.

In this way we see that within a range reason can interpose between fate and chance, and triumph over each of them.

2. This shows, or certainly suggests, that a higher power might introduce reason and the reign of law through the entire range of nature.

3. We see beyond our range of action that law does prevail to a great extent. We see that nature is so ordered, that it seems kindly, that it has compensations, that it suggests and fosters sentiments, and we see that the events of history seem to accord with the laws of

morality and the principles of justice. We therefore feel, before we set forth the argument in form, that reason banishes fate and chance from the part of nature beyond our control, as truly as from the part within our control.

The question before us is, are there such evidences of design in nature as to show that it had an intelligent author?

I. Definition.—*Design is the aim or purpose to reach a given result.* The given result is the final cause which calls forth the purpose of the agent. The means by which the agent attains the result desired are the evidences of the design. The final cause induces the agent to adopt means for securing itself as a result or an effect. It is the cause of the proximate cause of itself. As a foreseen and desired effect, it prompts an agent to adopt means to secure it as an effect. The design is the purpose of the agent to secure the foreseen effect.

II. Is design in nature a postulate of science? Is it in any way a primary truth, so that it can be said to be an axiom, or an object of intuition, or a condition of thought?

President Porter answers this question in the affirmative. He says: "We assent that the relation of means and end is assumed *a priori* to be true of every event and being in the universe, and that the mind directs its inquiries by, and rests its knowledge upon, this as an intuitive principle."—*H. I.*, 594. The argumentation in support of this principle does not seem to me conclusive.

Prof. Bowne adopts the view of Pres. Porter. He says: "Design is not properly proved by argument, but by inspection. It is an intuition, rather than a conclusion." Scientific theory is simply teleology read backward. Teleology conceives the end and adapts the agents. Science starts from the end and reasons back to the adapted agents: but the adaptation in the agents is identical in each case."—*Theism.*, 140.

"Apart, then, from all scrutable purpose in nature, science is, theoretically, impossible without assuming that all action in the universe is for an end. This is what President Porter means by declaring the reality of final cause to be an intuition."

Janet answers the question in the negative. He says: "Finality is not, then, in our estimation, a first principle, it is a *law of nature*"—*F. C.*, 9. The view of Janet seems to me more correct.

Those who hold that design, or finality in nature—the adaptation of means to ends—is a first principle, an object of intuitive knowledge, cite as evidence what they call our instinctive or intuitive belief in the

uniformity of nature. And that this uniformity is intuitive they consider proved, by the fact that it is implied in all inductive reasoning, which is always admitted to be a sound process of reasoning. But induction is not based on the uniformity of nature, as they interpret it, *i. e.*, on the truth that God is controlling all things for a purpose, and guiding them to its fulfilment.

Induction is based on the assumption that like causes produce like effects, or more exactly, the same causes produce the same effects. The principle of *identity* is one of the categories of thought. Neither time nor place changes the nature of a substance or a quality, and as these are known by effects, we expect the same results from the same efficient force. This has no reference to final causes. A simple illustration will show that we do not assume a final cause in every event in nature as we do an efficient cause.

The Delaware river carries lumber from the hills of Northern Pennsylvania down to Philadelphia. When the water is high, stray logs, driftwood and whole trees are floated down the stream. It is not possible to connect such an event with any design, no one can see the purpose, or affirm that there is any; yet the efficient cause is assumed to be operative here, as much as when well-formed rafts float down with a pilot on board. Certainly it cannot, to be demanded of all to believe in a final as in an efficient cause, in the case of the flood drifts.

We may early learn to assume that men act from rational motives, and ask what such and such acts are for; we also adopt the doctrine, if we are Christian theists, that God does nothing in vain; but it cannot be maintained from the event itself that every event, accident, casualty, has a purpose. It certainly cannot be maintained that all men so readily admit this as a truth, that they are compelled by the admission to admit also the existence and government of God.

III. Is there evidence of design in nature.

1. *Every person knows there is something of design in the world, because he is conscious himself of forming designs, of aiming at results, of adopting means for securing certain desired results.*

A farmer desires a crop of corn; he buys horses, plows, and the implements of culture, plants the seed, kills the weeds, protects the corn, all to secure a crop in the autumn. In such a case, no one disputes that a foreseen effect—an idea—is the cause of the movements by which the idea becomes a real effect.

Memorandum.—It is proper to remark, by the way, that we know that our fellow-men are intelligent beings by the works of design which they put forth. Each man is conscious of his own purposes, and of a purposing power, but no one can prove that other men have a purposing power—have souls—but by their works, works that exhibit design and contrivance. We cannot say, in studying the elements of human nature, our fellow creatures have intelligence and skill, therefore they do such and such works; but they do the works, therefore they have the skill and the planning power. We do not see the intellects of others; can only know the existence of intellect by an inference from its works. And it is only because the works of others are like our own, bear a resemblance to ours, that we know their minds and ours to be alike. The only proof of the intellectual character of our associates is analogy.

If we could come into association with a being, or with beings who do nature's works,—make eyes, and hands, and feet,—we should as readily admit the existence of a designing intelligence, as in the case of men.

2. *The designs and adaptations of means to ends among men have such a connection with nature as to be, in some relations, a development of it.*

a. Those who deny to man a spiritual power and a supernatural origin, who make his intellect a mere development of the forces of nature, must admit that there are designs in nature.

A watch, for example, is an evident work of design, and in this view is a product of nature. Those who deny spiritual power cannot *deny* therefore design in other cases, as in animal structures, or in the ordering of the seasons.

b. Those who hold to man's spiritual nature, and believe him to be in some respects raised above the material world, do not care to separate his contrivances as different in kind from those found in nature.

In the animal structure a germ or force develops into a spinal column or an ear, but no one can see that there is *not* a plan or contriving mind behind it as much as in the case of a watch. Man's mind, an inheritance at birth, *i. e.*, from nature, develops itself by age and labor. It comes gradually into the use of its planning and contriving faculties. The power to make a watch or a loom is developed as much as the eye or hand is developed to the exercise of its functions. Both the watch and the eye are products of powers involved in nature. The intervening of conscious contrivance between the bare germ of force in nature and the watch does not show that there was no conscious contrivance in the case of the eye, does not remove the watch from a connection with nature. If men make watches, it is because they were born to do it, or created to do it; they do not endow themselves with their faculties.

3. *There are products in nature apart from the works of men which exhibit marks of design, i. e., an end is aimed at and secured by means which are adapted to secure it.*

a. The organs of sense, like the eye and the ear; the organs of locomotion and organs of prehension, like the hand in man, all clearly answer a purpose,

Any one can answer the question, what are they for? The human eye is a complicated structure, consists of many parts adapted to each other, is fitted to furnish an organ of vision under the stimulus of light, and is adjusted to avoid difficulties and inconveniences in a way that would attest, if it were the work of any person known to us, wonderful intelligence and skill.

Volumes have been written on the eye, the ear, the hand, which may be consulted on this point. The only conclusion we wish to establish here, that they serve an end, is too clear to be denied.

Moreover, they rest in the attainment of the object. Eyes are not a development to reach something beyond vision, nor to attain an increasingly valuable vision, so far as we see, but they rest in the vision they afford. The same may be said of other organs of the system. The ball and socket joint, for instance, is fitted for a particular movement, and that being secured, does not strive after something else. This kind of joint is found in perfect form in early geological formations; it appeared as soon as animals requiring it appeared, and has been in use ever since.

While we need not turn attention to the particulars of any single organic structure, it is worth while to spend a little time in noticing the extent of design, the broad range of contrivances in the world.

b. Nature, as a whole, where we come into immediate connection with it, seems to have been constructed with a purpose.

The *earth* seems designed for man's residence. The amount of oxygen seems to have been the result of calculation. I compress here the statements of President Chadbourne. Nearly, if not quite, one-half of all the solid crust of the earth is composed of this gas, in combination with metallic and metalloid substances. Remove oxygen from our globe and it would be left a metallic ball, mingled only here and there with metalloids in combination. Then eight-ninths of all the water is oxygen. In the air we have it diluted with four times its quantity of nitrogen, but uncombined. The oxygen that forms in combination the crust of the earth was undoubtedly once free and uncombined. But when the great experiment was made of bringing the elements together, when the compounds of the rocks and the waters of the ocean had been formed, when the oxygen had spent its fury on all the elements which it has since held in its unyielding grasp, the oxygen of the air was undoubtedly left as a residual substance. For, notwithstanding the strong affinity of oxygen for other elements, the amount of each element which it can hold in combination is unalterably determined. The oxygen of the atmosphere was so much in excess in the world-making experiment. This remainder of oxygen mingles with nitrogen, but does not combine with it. The oxygen supports life and combustion, but if it were not mingled with the inert gas nitrogen would be too stimulating for life, and combustion would be too furious to be controlled. The oxygen of the air is taken up as freely, but not in so great quantities, as if it were not mingled with nitrogen, and forms carbonic acid, but is set free and returned to the air by the vegetation of the earth, so that the atmosphere is always the same. There is no evidence of the existence of nitrogen in the earliest history of the globe; it may have been created after the formation of the crust of the earth. It is only when we find the remains of organic beings that we have data for inferring its sxistence.

Oxygen is thus indispensable to human life, but a different quantity, greater or less, would be destructive to it.

Essentially the same conclusions could be shown from the offices performed by other elements of nature. It is to be noticed that there is no development in chemical affinities and combinations; they are

the same always, and whatever we may infer from them, we may infer from their existence itself, and may attribute to their author.

Chadbourne says, referring to the four prominent elements, oxygen, hydrogen, nitrogen and carbon:

"To create such elements implies infinite wisdom as well as infinite power. To believe them to be uncreated would be possible only to the ignorant, or to those constitutionaliy unable to weigh proof."

The adaptation of the earth to man is obvious to every observer. The offices of the atmosphere, of vegetation, of water, of ice, of minerals, and of other things innumerable, are indications of this fact.

c. The different animals seem to have a predetermined and appointed character. I notice here but a few instances.

The clothing and hybernation of animals shows a regard for their wants.

The structure of the cuttle-fish indicates great skill and knowledge of the principles of natural philosophy. He has a syphon tube through which he forces a jet of water; that, by its reaction, enables him to move with great rapidity. He has an ink bag from which he ejects a cloud of colored fluid, under cover of which he escapes his foe by a backward motion. He has tentacles lined with miniature air pumps, by means of which he fastens his prey securely, and other armor which entitles him to his designation of "devil-fish."

The eminent naturalist, Von Baer, discusses the rank we hold in the scale of being as follows:

"We are not in all respects the head of the animal creation. In some points other creatures are further developed, more highly organized than ourselves, and we carry about in our bodies as permanent structures things which are but temporary and embryonic with them. In birds, whose great organic specialty is flight, at a certain stage of the life within the egg the lungs are free in the chest and the bones are full of marrow, as ours are all our lives long. It is not till afterward that the lungs become tied down back of the chest, that air sacs communicating with them spread over various parts of the body, and the bones become hollow and thin. These are features specially adapted for flight, later developments of which we show no sign. In the same way it cannot be denied that feathers are more complex, and therefore higher developments of the simple structure we call hairs."—*Harper's Monthly, April*, 1877, p. 663.

d. "There is a correspondence between the organs of every animal and the instincts by which it is endowed. Beasts and birds of prey

having the instinct to feed on flesh have all the organs requisite to satisfy this inward craving. Those having an instinct for vegetable food, have teeth and stomachs adapted for that purpose. The bee, whose body secretes wax, has the instinct to build cells; the spider, furnished with a pecular viscid matter and apparatus for spinning it, makes a web and watches for its prey. Here are two very distinct things: instinct and corporeal organs. The instinct cannot account for the organs nor the organs for the instinct, and yet they are never found the one without the other. They of necessity, therefore, imply an intelligence which implants the instinct and furnishes the appropriate organs."—*Hodge's Systematic Theology*, I., 220.

e. There are certain correspondences in the processes of nature which seem to indicate design.

1st. Correspondent qualities in the same organ. Janet has the following: "How does not the gastric juice, which attacks and dissolves all sorts of food, dissolve the stomach, which is precisely of the same nature as the other foods? Well, now, it appears that nature, answering the objection beforehand, has enclosed the internal walls of the organ with a special varnish, which renders them unassailable by the action of the gastric juice. How can one refuse to admit that the production of this varnish (called *epithelium*) has a determinate and rigorously calculated relation to the future phenomenon, which the stomach behoved to produce?" And he quotes from Bernard: "The epithelium, a species of glutinous mucous, which lines the inner wall of this organ, * * * encloses the gastric juice as in a vase, impenetrable as if it were of porcelain."—*F.*, 6, 32.

In the horse the layers of hard and soft material alternate in the crown of the tooth, so that, under constant use, the surface of the tooth is like a millstone that is picked by the very process of grinding. And in the moose and deer that browse, the tooth grows sharp upon the outer edge like a chisel."

2nd. Corresponding instincts. The preservation of the species, in cases where the parent never sees the young, exhibits a correspondence between instinctive actions of different kinds, and apparently independent of each other.

The cicada, called the seventeen-year locust, deposits its eggs in the branch of an oak and soon dies (it lives but a few days in the winged state), the young is hatched from the egg, for a time finds its food in the oak (nothing else furnishes it), then burrows in the earth seventeen years as a grub, at the end of that period it is transformed, deposits its eggs and dies.

The tent-moth lays her eggs upon the apple tree, packs them closely, varnishes the moss to protect them from rain, and dies. In the spring the young are hatched by the warmth just when the leaves of the tree are fitted for their food. The mother always selects the apple tree for depositing her eggs.

Many fishes make long journeys to deposit their eggs in places fitted for their progeny, and when that work is done, parental solicitude ceases. Some species seek the cold, and some the warm waters. Some seek the fresh streams, and some the salt ocean; each one seeks the proper condition for its young, which it is never to see.—*Chadbourne*, 95 x.

The birth of animals which live on any sort of food that is not always obtainable, takes place at just those periods of the year in which the food necessary for their young is to be had. Insects, too, do not emerge from the grub until the means of their subsistence are at hand; indeed, they conform to the irregularity of the seasons, if the growth of the plants requisite for their food is delayed by bad weather.—*Christlieb's Modern Doubt*, 177.

There is a still more remarkable correspondence in the propagation of plants.

There is a variety of contrivances by which insects fertilize plants. The structure of the plant and that of the bee are often adapted to each other, as much as the key to the lock. The honey poured out in the flower attracts the insect, and in his endeavors to reach the precious fluid, he indirectly benefits the plant. We might regard this as a matter of accident were there but a single instance of it, or the same structure for all flowers. But when we see thousands of species of plants of varied form, with their parts so arranged as to secure fertilization by the aid of insects, and the drop of honey placed in the flower to attract them, we not only recognize design, but, in a provision of such varied nature, the idea of chance is excluded. If no honey is secreted in the flower, then it will be found that means have been provided adequate to produce fertilization without the aid of insects.

When plants do not produce fruit, then they can be propagated by slips, as the grapevine, or by bulbs, as in the case of roses that are highly developed in the petals, and other plants with double flowers.—(*Chadbourne.*)

3rd. There are arrangements made for *contingent* wants, exhibiting marked correspondences. From one central organ, the stomach, is carried to every part of the system, not only material enough to make

all repairs, but just the kind of material which is needed. If lime is wanted, lime is carried; if silica is the required substance, silica is never wanting; if iron, or carbon, or chlorine, or any other element is required, at the appointed time, without thought on our part, that element is selected and sent to its appointed place.—*Chadbourne.*

"The broken bone is again united by matter, which exudes from the two extremities, and knits them together with even greater solidity than the limb possessed in that part before. The bruised or diseased flesh is seperated by a thickened coating from the sound portion, and then thrown off by suppuration, its place being gradually taken by new and sound tissue. The main artery, which furnishes a limb with its chief supply of blood, being tied up and thus obliterated by the surgeon; in order to avoid the consequences of an accidental enlargement, collateral channels are made or enlarged by the Divine Helper, even the direction of the current in some of them being changed, so that the limb again receives its full supply." This illustration is taken from Professor Bowen, who also quotes the following from J. Gregory: "Gaudet corpus vi prorsus mirabili, quâ contra morbos se tueatur; multos arceat; multos jam inchoatos quam optime et citissime solvat; aliosque suo modo ad felicem exitum lentius perducat. Haec Autocrateia, vis Naturae medicatrix vocatur; medicis, philosophis notissima et jure celeberrima. Haec sola ad multos morbos sanandos sufficit, in omnibus fere prodest."

It seems impossible to refer these efficiencies of nature either to chance or development. They are uniform and must rest on a law of nature; they are forces brought into service only on irregularly occurring occasions, and are not the results of nature's strivings to supply a fixed need.

f. Nature seems designed to waken and to some extent satisfy the intellectual and spiritual wants of man.

Our aesthetic faculties are almost wholly dependent upon nature. The earth is the great source of objects of beauty and sublimity. The development of the taste is acquired through this source, directly or indirectly. Works of art are valued according as they are true to nature. All forms and colors are supplied to man; he invents none, he merely varies the combination to express his thoughts.

It would seem that colors were imparted to the objects of nature to delight the eye. They do not seem, in flowers and other objects, to serve any purpose belonging to the object itself. The laws that govern sound, the resonance of vibrating objects, would seem to be established

for the good of men; music seems to answer no end except to an intelligent mind.

The laws of nature revealed in astronomy, and in the construction of the plants that grow on the earth, seem to have been established in part for man's intellectual development and instruction. The telescope reveals sublime truths for our contemplation, and the microscope shows that law and order prevail in the minutest things.

Chadbourne says: "The microscopist dwells in a world of enchantment, a world unknown to common men, a world of wonders by itself, but a world as perfect in all its parts, and as plainly proclaiming divine wisdom and skill, as the sun and planets that circle in space."

The human constitution with its tendencies, the experiences of men with their natural results, give us lessons of wisdom both in science and morals.

If we recognize design any where—can see any influence from final causes, we can see them in the adaptations of nature to man's higher intellectual and spirtual wants.

g. There are evidences in nature that ideal structures are aimed at which are not fully realized, because circumstances do not demand their realization.

Rev. Thomas Hill, D. D., LL. D., in an article on "Organic Forms," in the *Bibliotheca Sacra* (Jan., 1879), says: "Modern botanists had noticed that in many plants the successive leaves come out on opposite sides of the stem, so that the angle between two successive leaves is one-half the circumference; in other plants the angle is always one-third the circumference; in still other plants, two-fifths, in others, three-eighths; and the series of fractions may be continued indefinitely, by adding the last two numerators for a new numerator, and the denominators for a new denominator. In 1849, Professor Pierce showed that these numbers are the successive approximations to extreme and mean ratio. A few years later, Chauncey Wright showed that this division gives to each leaf its fairest chance for zenith light." This arrangement, in accord with extreme and mean ratio, is found embodied in plants, "not arising from any blind struggling for light and room, but, to all appearance, intelligently adopted because of its general utility."

The instances now adduced, and others which might be cited, are sufficient to convince us that there is design in the works of nature, *i. e.*, there are ends aimed at, and these ends are secured by means. A future effect is sought, and so sought as to be attained; sought by means that are adapted to the attainment of it.

It would be simply a defiance of common sense to say that eyes are not made for seeing and ears for hearing. We have not attempted to decide whether the fashioning power of these organs is immanent in nature, or is above and beyond nature, but merely say, that on any view of their origin, nature now furnishes them constantly through a law of heredity, or some other law, and furnishes them *for the sake of* affording sight and other sense perceptions, not with the mere incident of affording them. The uniformity with which eyes see and ears hear, and that in the same way, and with like range, and in like degree, must be ascribed to a cause that acts by law, in securing these sensations.

Moreover, the range of continuance and adaptation in the world, if they are admitted to exist at all, is such that they must be accepted as characteristic of nature. Several cosmical arrangements, as well as the structure of animal organs, provisions for food, as well as the propagation of animals and plants, show that tendencies to results, aim at ends, pervade all parts of nature.

The evidences of design in nature are clear, but this, as a bare fact, does not prove a supra-natural designer.

Whence comes this finality, this adaptation of means to ends? This is the question of chief interest.

If we were acquainted with a being, or with beings, known to effect such adaptations in nature, we should without hesitancy ascribe to such a source any *new* adaptations or contrivances that might fall under our observation, just as we should ascribe to human labor and skill a collection of farming implements or mechanics' tools, which we might chance to find in a secluded place. Or, again, if we should fall in with a being, or beings, obviously manufacturing and putting to use such contrivances as we find in nature, we should unhesitatingly infer the intelligence of such beings, as we infer the intelligence of men, from their works of design. In other words, if the premises of the following syllogism were granted, the conclusion would follow without dispute, and the minor premise would probably not be questioned if the major were granted:

1. There is a God, a being of supreme intelligence.
2. There are in nature works distinctive of supreme intelligence.
3. Therefore these works in nature are works of God.

But the major premise, intead of being granted, is the conclusion which we wish to reach. Can we then change places with the major premise and the conclusion? The argument would then be:

1. *He who performs works of supreme intelligence must be God.*

2. *Works of supreme intelligence exist in nature.*

3. *Therefore there is a God who performed the works of nature.*

For the sake of brevity I have used unexplained terms, but it is in place now to say, that by supreme intelligence I mean the intelligence of a being outside of nature, working with a plan or design, and with a power and skill, so far above that of man that we apply to the being the name God.

With this explanation, the only objection to the latter syllogism is to the second or minor premise, *works of supreme intelligence exist in nature.*

To the truth of this premise then, we now give attention. We have seen that there are manifestations of finality—design, in some sense of the word—do they give evidence of a Supreme Intelligence?

IV. Do the works of nature give evidence of a supra-natural intellect working in nature with a plan?

1. *It accords with our reasoning in regard to human works to refer the movements of nature to a source beyond nature.*

"For every house is builded by some man; but he that built all things is God."—*Heb.*, iii., 4. It is in analogy with experience and every-day argumentation to infer from the designs manifested in nature an intelligent designer outside of nature. We refer works of skill to a mind superior to the works within the range of human labor; there is no reason for not extending this principle beyond the human range.

2. *The works of nature are intelligible.*

We can, in many instances, read them. They waken the intellect, they call forth rational sentiments, they afford suggestions, they afford models of beauty, symmetry, contrivance. The telescope is a construction in imitation of the eye. Mind responds to exhibitions of skill in nature, it recognizes adaptations like those it adopts.

This fact is considered by many sufficient to decide the question before us. Mind in man recognizes mind dominating nature, therefore there must be a God who is the author of nature.

The Scriptures treat this argument as convincing: "He that planted the ear, shall he not hear? he that formed the eye, shall he not see?"—*Ps.* xciv., 9.

Dr. Chalmers says: "That the parent cause of intelligent being shall be itself intelligent is an aphorism. To proscribe such a truth would be to cast away the first principles of all reasoning." When we read a diagram which some one has placed upon a blackboard and say, "That means, the squares on the sides including a right angle are equal to the square on the line subtending the right angle," we have no doubt that the one who drew the diagram understood it as well as we do. When we read nature and say, that is a law requiring industry, this means kindness, there is an exhibition of a justice pervading nature, and here is an assertion of the equal rights of man, we have no reason to suppose that the author of that which we read did not understand his own writing.

3. *The author of that which is intelligible in nature must in some instances at least be outside of nature.*

The correspondences indicative of design which we have noticed, are evidence of this. The instincts of the bee prompting it to secrete wax, build comb, gather honey, and fill the comb with honey, are separate facts, neither creates the other. The bee does not acquire them successively, but possesses them all by nature. These instincts are bestowed from an external source. The provisions for the propagation of animals as fish and locusts present correspondences not realized in the same animal. The author of these contrivances must be an intelligence external to nature, certainly to those parts of nature in which they are realized.

(The objections to this view, or the one chief objection, will be noticed hereafter.)

4. *Man, as a moral and intellectual being, is evidence of the existence of a God above nature.*

We have already seen, in treating of the cosmological argument, that it is not philosophical to account for the products of nature by tracing their qualities to the inherent qualities of atoms. We cannot infer the greater from the less, cannot account for even physical structures without assuming a co-ordinating intelligence. When we remember that man, with all his qualities, is to be accounted for, it is clear that we must assume a supreme controlling intelligence. Men have ideals of beauty and of virtue; they execute works of art which have a meaning, but which only imperfectly express their thoughts; they

accept and hold themselves amenable to moral law, which binds them as personal beings, *i. e.*, as beings possessed of self-consciousness and the power of self-direction. (These items are here spoken of as facts, not because of their moral value.) Whence do they come? Each one knows they are not his as any peculiar possession. Ideals of beauty are sought for as objects partly possessed, to be more fully attained; they dominate the mind, are not dominated by it. The same might be said of virtue and of all the qualities of soul conditioned on personality. Whence come these qualities of man that are his dignity, the very substance of his worth, which yet are inseparably connected with his sense of responsibility and dependence? Whence come man's ideals that rise above nature, correct mistakes, prompt him to rise above anything yet attained?

Since every effect must have a cause, and a sufficient cause, we could not, even if we held to the theory, trace these comprehensive and general principles to the aggregation of the little "mind stuff" in each atom of matter; they must be traced to an intelligence above man, not below him. And they must be traced to a being totally different from man, a being of a different order. These principles are verities unchanging, authoritative. Men deal with them as subjects, learners, imitators. The principles of morals and the fundamental truths of science must be referred to an intelligence who is sovereign and creative. He must, as the author of our personality, be himself self-conscious and personal.

Certain objections are made to this view of a supramundane intelligence. Unless these objections can furnish a better theory than that given, or show that that given lacks foundation, it must stand as the one most reasonable and most probable.

Objection 1. It is said that the present order of things may be the result of *chance*. Matter must appear in some form, and the present is as probable as any other; we need not seek a reason for the present state of things.

Reply. The idea of chance is an occurring of events without control from a causal force. It implies the absence of cause in the strict sense of that which produces a definite result. Chance in this sense would not account for anything. It would, were it established as a truth of nature, simply repel all investigation of nature.

There have been many replies to the doctrine of chance. One often resorted to is that there is a strong probability against any event, so strong that we cannot believe in its occurrence by chance. There

is no probability, for instance, in the supposition that shaking and throwing at random the separate letters of the Iliad would produce the Iliad. To confine attention to a smaller number of items: What is the probability that a child born into a family will be rational? What the probability that there will be two rational children in one family? that there will be five or six? There are many particulars entering into rationality, what probability that they will concur to the exclusion of those inconsistent with rationality?

The improbability of chance concurrences has been reduced to a mathematical statement. Professor Jevons says of the possible deals of a pack of fifty-two cards: "If the whole population of the world — say one thousand million persons — were to deal cards, day and night, for a hundred million of years, they would not in that time exhaust one hundred-thousandth part of the possible deals." [Quoted from Wright's Logic of Christian Evidence, 83.]

It is obvious that if two or three children of any family are rational, if all human offspring are rational, that chance is excluded, for if chance is admitted at all, it must be admitted everywhere.

It is not worth while, therefore, except as a curiosity, to turn to the negative argument of improbability for a disproof of chance. We have laws that are fixed, forces that are efficient, *e. g.*, the law of heredity, the law and force of gravity, the law of germination, and the supposition of chance requires us to change the clearest meaning of words, the plainest facts of experience.

Janet says: "Chance is a word void of sense, invented by our ignorance."—p. 19.

Obj. 2. It is said that *mechanism* accounts for the works of nature so far as they can be accounted for. Mechanism as a system means the actual series of causes and effects as we find them in nature, without any reference to final causes. This view is that of necessity, not chance. It maintains that we are not to attempt to account for the origin of things, but to accept them as they are, eternal for aught we know,—something must be eternal, and, so far as we can know, it is matter,—and simply note the effects that fall under our observation. There are causes which produce whatever we see, and we are to accept them as simply having the power to do what we see them doing. Professor Bowne says: "All mechanical theories of nature assume that the visible universe can be explained by the various grouping of these atomic units, and that these groupings take place in accordance with the simple laws of nature and the principles of mechanics."

There are certain operations of nature which seem happily to illustrate such a scheme of natural philosophy. The formation of crystals is by law, yet, so far as we can see without any final cause. The events of the seasons seem often to be a mere *drift* of things without a purpose in view, *e. g.*, rains, snows; floods seem often to be aimless, often *recklessly* mischievous, if there be a purpose. We speak of the caprice of the weather, and of the need of adapting ourselves to circumstances which are uncontrollable.

Reply 1. It may be said that even these things in which we see no final cause, are not demonstrably without final cause. There is no incompatibility between their efficient causes and a purpose. Purpose, in some cases may be surmised, and perhaps a utility may be hereafter discovered even in the variety of crystals.

2. If certain parts of nature *are* placed under the mere control of mechanical causes, it does not follow that they as a whole are not under the control of a higher government which aims at the fulfilment of purposes. Much less would this prove that the animate and rational parts of the creation are subject simply to blind mechanical force.

3. The scheme of mechanism cannot be maintained, for it is at variance with instances of finality which we have noticed, instances in which provision is made for contingent wants, future wants, æsthetic wants, and ideal forms. Mechanism also fails to account for the aim at meeting a want in the construction of organs, as the hand or the eye. If the forces that form these organs are simply forces working *a tergo*, with no reference to completion of their work, it is incredible that they should always cease operation at the same point, exactly when the useful end is attained.

4. Mechanism *contradicts* one of the clearest facts of nature. *Men* act from a final cause. This each one is conscious of. Every one must admit that he himself adapts means to ends. But on the scheme of mechanism, man is a part of nature and all his acts must be accounted for by the scheme of nature. Mechanism therefore, is at variance with the plainest truth.

5. Mechanism virtually denies the rationality of men. The only evidence each person has of the intelligence and spiritual nature of his fellow is found in works of design. The system which denies design in nature denies any evidence of a rational soul in man. Mechanism makes animals mere automata.

Obj. 3. *It is said there are forces in nature which work towards certain ends, and that we have no occasion to go beyond nature to find a supra-mundane intelligence which has selected those ends as objects to be attained.*

In illustration of such a view, the instincts of animals are cited as evidence that there is a blind, unconscious, but natural working towards an end which is not to be traced to a supernatural source. The bee builds comb; the spider forms a web, without learning how, without knowing why. The habits of other animals are similar; and man's work is only an extension of the same tendency to ends inherent in nature. There is thus an *immanent finality in nature*, or tendency to adapt means to ends, which accounts for the skill and art found in nature without attributing it to a cause beyond nature, to an intelligence forming a plan and executing an intention.

This is the chief objection to the influence of a personal God above nature, and, indeed, the only one of any considerable force among those who adopt the present prevailing views of naturalists concerning matter. The objection is, in one view, the same as that of endowed atoms in opposition to the cosmological argument, the particular endowment of working towards an end being made prominent; in another view, the endowment may be considered as that of the whole of nature. In the last case the objection is pantheistic.

Reply 1. The illustration of immanent finality by instinct, though at first sight plausible, is not one of convincing force. The habits arising from instinct are not to be traced to the animal as the ultimate source any more than those connected with organs. Instincts do not exclude an author above nature any more than the bodily structure. That the spider should be provided with the means of spinning a web, and should then prepare its net for prey, is no more to be traced to design in the spider than the shaping of an eagle's beak to a form fitted for seizing prey is to be traced to design in the eagle.

Instinct is a subject not easily investigated, but does not bring to light the powers of nature in any new or peculiar way. It is difficult to tell where animal intelligence supplements instinct, but the two serve the same end, and there is no reason why instinct should not have the same source as animal intelligence, and animal intelligence the same source as human intelligence. Janet says: "Nature makes prehensile organs, the arms and the hands; industry lengthens them by means of stones, sticks, bags, pails, and of all tools for felling, digging, picking, trenching, etc."

2. It is more important to notice the pantheistical form of this objection. There are some who admit the fact of a finality in nature, and apply to it the term design. By a calculation of probabilities, it is ascertained that the chances against the fact of design in nature are practically reduced to nothing. In the eye, it is said, there are at least thirteen intentions or aims secured. That all these should be secured by chance is incredible; that the many aims of the physical system should be secured by chance, it is impossible to believe.

Many philosophers therefore, consigning mere mechanism to the intellectual gibbet, as Tyndall does, adopt a dynamic theory of matter, attributing to it the forces which are attributed by those who adopt a spiritual philosophy to both matter and spirit. It is said there is one substance endowed with these two primal attributes, extension and thought. This substance struggles unconsciously into development and reaching higher and higher attainments acquires self-consciousness in man. In its struggles from the first it has designs which it unconsciously entertains and seeks to accomplish. These appear in the lowest forms of organic structures as well as in the highest. The position maintained, that there may be unconscious designs entertained by this substance, is illustrated by the unconscious operations of the mind. We hold vast numbers of items in the memory for instance, in a way we do not understand, and only bring them forth from memory into consciousness as occasion calls for them.

The reply to this position here may be brief, for it belongs to philosophy, not natural theology, to oppose pantheism.

The philosophy spoken of at the outset of these lectures, as that here adopted, excludes pantheism. I therefore notice only briefly the objections to this view.

a. It merges into one, things entirely different. Thought and emotion have no known relation to extension and divisibility. There is no ground for attributing them to the same substance, and as we know substances only through their attributes, it is natural to ascribe qualities in such contrast as thought and extension to different substances.

b. The very statement of the theory is a contradiction. Nature entertains unconscious designs is the assertion. But a design is a purpose to meet an end in view, through means adapted to the attainment of the end. The very idea of design implies self-consciousness. And a being endowed with self-consciousness, forming designs to be executed through nature, must be above nature—must be God.

c. The theory is inconsistent with the facts of human consciousness. If the theory is true man is material in all his parts, is simply a portion of nature, helps to form the whole which is one substance, to be called indifferently the World, the Universe, God, the All, the One. But our consciousness individualizes us. If we know anything, we know that we are not our neighbors, are not at once infidels and believers, temperate and inebriates, both lovers and haters of good morals. Moreover, we know that we are different from the material substances with which we are conversant. We even distinguish ourselves from our own bodies, and are convinced of our personal identity through all the changes of the bodily life.

d. The attempt to identify mind with matter, on the ground that some mental operations are unconsciously performed, is not convincing. The argument is only negative at best. That two objects should be without a certain quality, does not prove their identity. Wood and granite are without the characteristic property of the lodestone; this does not show that they are the same thing. The mind is capable of varying degrees of energy; sometimes it sleeps, sometimes it is listless, sometimes it is so animated that its knowledge comes into consciousness to a much greater extent than at other times, as a speaker thinks more rapidly before an audience than when lounging in the shade. The absolute mental power in all these states is the same, and distinguishes the man from a block of wood as clearly at one time as at another. It cannot, therefore, be inferred that mind and matter are one substance, because mind is sometimes unconscious and matter always is.

The teleological argument for the being of God very readily affects and convinces the mind; and no objections that have been raised in opposition to it have deprived it of its power. It has practical force both with the learned and unlearned.

Dugald Stewart quotes a narrative illustrative of its influence with the uneducated: "Is it not fitting, said a savage to his companion, showing him a watch, that a people such as we should be the slaves of a nation forming such a machine? The sun," he added, "is a machine of the same nature." "And who winds him up," said his companion? "Who," replied he, "but Allah!"—V., 293.

Cultivated minds also see marks of a designing mind in nature. This is of course to be expected in those who adopt at the outset the intuitional philosophy; but those who study nature also find traces of design, at least many think the recognition of design inevitable.

Dr. J. W. Dawson, Principal of McGill College, Montreal, in a lecture on Sciences and the Bible, delivered before the students of Union Theological Seminary, New York, says:

"In regard to this objection, to the idea of design, I am sorry to say, some men of science look at it from too partial a point of view, have even ridiculed it in our day, and spoken of it in the strongest terms, as if it were something utterly absurd. These men in doing this do violence to their own facts, since the severest kind of induction must lead us to the conclusion, that such adaptation as we perceive, especially in the more complicated animal and vegetable structures, are incomprehensible on any presumption of blind concurrence. Even Mill, who seems at one time to have taken ground against design, in his last essay takes up this argument, admits its force, and I was struck with the fact that after canvassing the various arguments for the existence of God, he rejected one after another, and comes in the end to take up the argument of design, and, after scanning it critically, says this argument has inductive value, especially when you look at the complicated series of adjustments which exist in the order of the higher animals, and he seems to say, that as to his own mind, this is the only remaining argument for the existence of God."—*Reported in the N. Y. Tribune, Dec. 16, 1874.*

Mill's words are: "I think it must be allowed, that in the present state of our knowledge, the adaptations of nature afford a balance of probability in favor of creation by intelligence. It is equally certain that this is no more than a probability, and that the various other arguments of Natural Theology which we have considered, add nothing to its force."—*Three Essays of Religion*, 174.

3. *The moral argument for the existence of God.*

While the moral argument has been considered one of the most satisfactory, there has been some confusion as to the form of it, whether it should be presented as *a priori* or *a posteriori*. The argument which I have called, that from the implications of necessary beliefs, would by some be called moral, because some of the beliefs themselves are furnished by our moral nature. But I shall consider this argument an *a posteriori* one, based upon this assumption: the indispensable interests of our moral nature must be accepted as real. This assumption is sometimes made on the ground that God would not deceive us, and make our being a lie; but such an assumption *here* would be manifestly begging the question, for the existence of God is the conclusion which

we seek to reach. We must make the assumption on the ground of our moral nature itself, and the facts involved in it. It is so positive in its demands, so self-assertory, so effective in its influence over us, that we must admit it to be true and real; if we do not know ourselves moral, we do not know anything.

The argument may assume many forms. I present these two.

1. *A moral law which confessedly binds all men, must have as its author the acknowledged Ruler of all men:*

The law of duty confessedly binds all men:

Therefore the law of duty must have as its author the acknowledged Ruler of all men.

2. *Whoever accepts the office of universal judge pledges himself to adjust wrongs:*

He who holds us accountable to the law of duty, accepts the office of universal judge:

Therefore he who enforces the law of duty pledges himself to adjust wrongs.

These arguments are good on the supposition that the *binding by law* and the *holding accountable* are positive facts, not mere seeming. In support of this supposition we are obliged to accept our convictions, not simply as involved in the feeling of accountability, but impressed by the intensity of the feeling.

By the aid of the moral argument we are enabled to ascribe to the cause, to which we are led by the cosmological and teleological arguments, attributes of a moral nature and personal traits of character, such as justice, appreciation of the right, indignation towards the wrong; also purpose, pledge and promise.

The moral argument for the existence of God is one of the most satisfactory and convincing, because our moral intuitions are among the clearest of our intuitions, and our moral feelings are the most obtrusive, persistent and uncompromising. No one can throw off the instinctive demand of our nature, that holiness be pursued and vice shunned, nor the instinctive belief that virtue will be rewarded and vice punished.

The moral argument has in fact done more than simply confirm men in the belief of the existence of God; it has also contributed much towards convincing them of the immortality of the soul. There has been such an assurance that sin must some time meet its just punishment, and such a conviction that it is not adequately punished in this world, that the inference has been very general that there must be a future life of rewards and punishments.

The moral argument is impressively confirmed from history. Though God's moral government is unfinished in this life, still the rewards and punishments allotted to nations and to individuals, the distribution of good and evil, are such as to enforce the belief that God is, and is regarding the moral interests of mankind.

Kant's method of presenting the moral argument is this: "Man is constituted with two ends in view, viz., holiness and happiness. These two ends are not attained coincidently in this life, in many cases they are widely separated; therefore there must be a further state where the system is adjusted and completed, and there must be a God who will secure the union of righteousness and happiness." The faculty by which this conclusion is reached, has been called the *moral reason*, or practical reason.

Chalmers would probably consider as belonging here his statement of the argument for God's existence derived from conscience, though it seems much like an *a priori* argument.

"The supremacy of conscience is a part of the constitution of human nature, seen in the light of consciousness by each man, of his own individual specimen, and verified in the light of observation, as extending to every other specimen within the compass of his knowledge. And however quick the inference may be from the supremacy of conscience within the breast, to the Supreme Power who established it there, being himself a righteous Sovereign, yet this is strictly an argument *a posteriori* both for the being and the character of God. It is the strongest, we apprehend, which nature furnishes for the moral perfections of the Deity; and even with all minds, or certainly most minds, the most effective argument for his existence, though ushered into the creed of nature not by a train of inferences but by the light of an almost immediate perception."—*Nat. Theo.*, I, 351.

IV. Argument for the existence of God from universal consent.

All men believe there is a God; therefore there is a God.

Man is religious as surely as he is rational. The belief in the existence of God has been general.

Cicero says: "Among men there is no nation so uncultured, so wild, that it does not know that God's existence must be held, though it should be ignorant what kind of a God should be held."

Lactantius says: "The testimony of people and races on this point is unanimous."

Seneca says: "We infer there are Gods from this, that an idea of the Gods is fixed (*insita*) inherent in all."

Maximus Tyrius has the following: "In such a contrast and tumult, and disagreement (about matters of opinion), you may see this one law and speech acknowledged by common accord, that there is one God, the King and Father of all, and many Gods, the children of God, and ruling together with him. This the Greek says, and this the barbarian says, and the inhabitant of the continent, and the islander, and the wise, and the unwise."

Plutarch says: "You may find cities without walls, without letters, without kings, without money, but no one ever saw a city without a deity, without a temple, or without some form of worship."—*These statements are taken from Stewart*, V., 302.

Objection.—It is said many popular beliefs are erroneous, *e. g.*, the sun's going round the earth.

Reply.—There is ground for the belief, but a wrong inference as to the moving body.

The value of this argument is greater than would be at first supposed. Aristotle speaks thus of the general consent of men: "What seems true to most wise men is very probable; what most men, both wise and unwise assent to, doth still more resemble truth; but what men generally consent in hath the highest probability, and approaches near to demonstration, so near that it may pass for ridiculous arrogance, or for intolerable obstinacy and perverseness to deny it. A man may assume what seems true to the wise if it do not contradict the common opinion of mankind."—*Quoted by Stewart*, V, 302.

Tyndal on Sound